De hygienisten : artsen, staat en volksgezondheid in Nederland, 1840-1890

SUMMARY

The Hygienists. Doctors, the State and the Health of the Nation in the Netherlands 1840-1890

This study describes a distinct group of medical practitioners in the Netherlands in the years 1840 to 1890, who adopted the view that the health of the nation is determined by the state of public health. Their scientific publications aimed at demonstrating this connection. They participated in a network of organizations involved in public health research and worked for the improvement of public hygiene and for the introduction of preventive medical legislation. Furthermore, they became active in political and social organizations and acceded into government bodies. In this study these doctors will be referred to as sanitary reformers or hygienists.

One of the theses to be developed in this book is that the hygienists played an essential part in replacing the old medical notions of the Ancien Régime by a new medical paradigm. This shift is placed in the context of the socio-political developments which took place after 1848: the transition from the traditional class-ridden society to a modern, liberal and unified state. Municipal autonomy was to play an essential part in this modern state, created in 1848 by the Minister of Internal Affairs, J.R. Thorbecke. It was the middle classes in particular, including doctors and other members of the liberal professions, who supported this development. They wished to acquire an important place in society, till then dominated by the aristocracy.

General dissatisfaction amongst doctors with their position in society and with the poor state of the population's health led to the formation of the Dutch Society for the promotion of Medicine (NMG) in 1849. The hygienist movement rose in parallel to this. The 1848 revolution liberated new energy amongst the middle-classes. In Germany doctors sided with the revolution in the conviction that corrupt and decayed regimes were responsible for the poor state of the nation's health. Their attitude had a great impact on the Dutch medical profession.

During the same period, all of Europe was visited by a cholera epidemic. The 1832 epidemic, which was countered by quarantine measures and philanthropic care, had had a disastrous outcome. This stimulated many doctors to approach the nation's health in a new way, in which public health care alone was stressed. The hygienists were not just ready for new medical ideas; they were also convinced that only political reform along liberal-democratic lines could create the necessary conditions for hygienic reform. Political and medical reform were inseparable.

Politically the hygienists were on the side of the doctrinaire liberals and their leader Thorbecke. Both the liberals and the hygienists stressed the importance of municipal autonomy. Thorbecke considered it of the utmost importance for the vitality of society that the state did not impose all kinds of regulations from above. The hygienists also believed that in the first instance a local, that is municipal, health policy should be developed. Central government would intervene only if local policy failed to improve public health.

This attitude towards the nation's health radically contradicted the technocratic-statist model, propagated by G.J. Mulder, professor at the University of

Utrecht and well-known conservative opponent of Thorbecke. He advocated a medical profession strongly tied to the central government and more political power for medical professors. His thoughts owed much to French Bonapartism. In the Netherlands, however, his political concept failed to attract the support of either voters or doctors.

The hygienists were moderate enough to cooperate closely with Thorbecke. During the 1848 revolution some of them had proclaimed that only higher wages and the emancipation of the working class could improve the nation's health. After 1850, however, the hygienists embraced the more conservative 'Bodentheorie' of Max von Pettenkofer, professor of hygiene in Germany. He considered soil pollution as the main cause of epidemics and outlined a series of technical measures intended to combat this pollution.

In addition to Pettenkofer, the hygienists took their inspiration from the Belgium mathematician and statistician L.A.J. Quetelet. Quetelet's starting point was that under normal conditions social and biological data such as bodylength, criminality, suicide, intellectual capacities and mortality, were distributed amongst the people in a 'normal distribution'. Variations in a negative sense had to have a cause, which could be removed by political measures.

According to Quetelet, statistics was an important expedient in serving social progress. Based on these thoughts, the British sanitary reformer William Farr developed the so-called biometer. He calculated a 'physiological' death-rate of 17 per thousand. Higher municipal death rates were due to poor policy-making in the field of public health. According to Farr, in this case local authorities must change their policy. Following in the footsteps of Farr, the Dutch hygienists published the first Dutch atlas of mortality in 1865.

A new reality

The statistical publications of the hygienists did not just present an objective description of reality. Statistics created a specific order within this reality. Firstly, through statistics the hygienists placed all civilians on an equal level. For the hygienist-statistician a death always carried the same weight. The death from cholera of an upper-class civilian or a poor man increased the death rate equally. How the different classes shared in this mortality, was of no relevance when the biometer was employed.

Secondly, the hygienists considered the mortality rate in the same way as the value of a thermometer, expressing the consequences of pathogenic, local environmental and life conditions. Mortality and morbidity were represented on maps, together with geographic data and details of sanitary conditions. Diseased places in the country or in a city could be recognized at a glance, and, following on from this, a comparison of death rates reflected the quality of sanitary conditions.

Through statistics the hygienists also created a new political order. In an unhealthy area measures to guarantee the quality of drinking water and the hygiene of soil and air had been insufficient. In other words, an area with a high death rate was also one where the benefits of preventive medicine and modern hygienic techniques had been insufficiently employed.

By using statistics in epidemiology the hygienists connected disease, the cause of disease, individuals, politics and society in an unprecedented manner. Disea-

ses were the expression of poor management of the environment, a result of lack of civilization and faulty policy-making. Thus, diseases were symptoms of poor leadership. This statistically demonstrated connection between disease and policy placed disease and individuals in a new relationship, for, in many cases, the connection implied that civilians died through no fault of their own. Henceforth, civilians dying of an epidemic disease should be considered as victims of those obstructing 'progress'. According to the hygienists, precisely this reality, created by statistics, had to be the central issue in the debate on the nation's health.

The power of statistics

Statistics became the most important research tool, because statistics, unlike existing methods of research, offered a clear perspective on a programme to improve the nation's health. Statistics transformed epidemiology into a practical science with great social benefit.

According to the hygienists, the dragging discussion on the question as to whether cholera and other diseases were contagious was not relevant. This discussion had produced very few results in the preceding period. Thoughts about the nature and the life cycle of infectious matter and about the pathophysiological process in the human body had remained merely theoretical constructions. In other words, around 1850 scientific research had become deadlocked.

In opposition to this discussion, the hygienists put forward 'objective' measurements and empirical research. Statistics met their need to frame an inductive science of epidemics, just as the natural sciences fulfilled their wish to give pathology and therapy an inductive basis. The microscope and the pathological-anatomical atlas were the most important expedients in clinical medicine, statistics and topography in epidemiology. Consequently, statistics created the possibility of arguing 'scientifically' at a time when the ultimate causes of epidemics were shrouded in mystery. Without seeking out hidden causes (for example, the contagion), one could study correlations between a number of aspects of the 'hygiena publica' and the appearence of common diseases. With this, epidemiology was transformed into a science which directed the social and political activity of both doctors and politicians.

Within ten years statistics came to dominate epidemiology. The success of statistics was based on three properties: the increase in scale in the number of data, standardization, and the facilitation of the process of dissiminating data in different directions.

Firstly, after 1850 statistical research was done by a nationally coordinated network of doctors, capable, after a short time, of publishing surveys of mortality and of various diseases for the country as a whole, the provinces and municipalities. These surveys for their part revealed geographic differences in health. Changes in the state of health could now be clearly detected over the years. A community where initially the local investigator had been his own master, was now, so to speak, carried off to the offices of the Ministry of Internel Affairs, where it became possible to obtain a good overview and to predict future developments. Henceforth, the Ministry came to function as a scientific centre stimulating new research and revealing new facts. Already after a few years one

could draw some general conclusions about the cause of common diseases. Thus, from the very organization of statistics the hygienists gave a stimulus to a cycle of accumulation of knowledge, leading to an enlargement of research. They possessed knowledge on the state of health in each part of the country. This knowledge accorded more scientific status to the hygienists, who also came to be the government's most important 'suppliers of health knowledge'.

Secondly, statistical research initiated a standardization of research procedures. The effects of demographic changes on the death rate were calculated along established lines. The Dutch Society for the Promotion of Medicine also set up a protocol for topographical studies. Up until the 1880s this protocol was based on Pettenkofer's 'Bodentheorie'.

Another standardization took place in the field of the definition of diseases. The hygienists rejected the contagionistic presumptions and the traditional method of describing *species* and *genera morborum* and of classifying diseases according to outward aspects, which all characterized early ninetheenth-century epidemiology. In their view the previous conception of disease was wrongly ontological. Diseases were not entities which could flourish and die following environmental changes, but were caused by disturbed anatomical and physiological relations in the body itself. From the 1850s onwards the NMG, therefore, classified most diseases following their anatomical localization or the assumed causal physiological disorder. Consequently, there was a decrease in possible causes of death.

Through this standardization, statistical reports could be shaped following a fixed scheme of classification of diseases and causes of death. Thus, statistics changed medical knowledge, not only by increasing the amount of data on common diseases, but also by producing *other* and more *stationary* data: mortality and morbidity listings were based on a generally accepted classification of diseases.

Following the introduction of a fixed procedure for research and a fixed scheme for presenting data, one could classify large amounts of data as comparable numbers, formulas, plain conceptions and brief texts. The state of health of an area could be compared with that of other areas at a glance; there were more possibilities for surveying health than ever before.

Finally, through statistics, the hygienists produced knowledge that could be more easily disseminated than the knowledge of their predecessors. Within the network of hygienists and in political circles the numbers could speak for themselves. After 1850 one observed changes in the country's health, without the observer being known. The hygienists put their analysis of the state of health in the form of lists and numbers presenting them as objective and true. Consequently, the hygienists succeeded in placing 'the nation's health' in the centre of the political debate on health care.

The political effects of the statistical rhetoric soon became noticeable. Members of parliament and ministers made increasing use of statistical facts in disputes with opponents. Ever more frequently facts came to stand in opposition to opinions. Ever more the discussion on the nation's health was dominated by the hygienists' 'positive science'. Consequently, for the political and social groups who had participated in this debate since the eighteenth century, the capacity to offer an analysis of their own decreased. Statistics now had the final word: differences in mortality between countries, cities and quarters existed year after

year; these differences were structural and resulted from social conditions. Thus, through their statistical intervention, the hygienists diminished the possibilities for negotiating about facts in the field of public health.

New legislation

The introduction of the new medical laws in 1865 marked a time of triumph for the hygienists, because these laws fully confirmed their opinions. The introduction of uniform medical qualification provided equal quality health care for everyone. In addition, the government allocated more responsibility to the local authorities.

The 1865 State Health Inspectorate Act was not much more than a basic law intended to encourage local authorities to fulfill their responsibilities. Its main device was the stimulation of research on public health. Local authorities should take the results of this research seriously and act accordingly. Only if the municipalities obviously failed in this, did a 'douce violence' from the central government become justified to some extent. The scientific research, that was so vital to this scheme, was to be carried out by fourteen (adjunct) inspectors and by the members of seven medical councils of the State Health Inspectorate. Most of them had been hygienists since 1850. They started a research programme *con brio* and at the same time recommended improvements. They also proposed several amendments in the law.

Since they based their reasoning on Pettenkofer's 'Bodentheorie', environmental protection played an important part in their activities. They aimed at the improvement of ground and surface water, though without much effect. For the purpose of the removal of faeces, a cheap pail-closet system was propagated. They turned against the so-called flushing system, so successful in later years. However, no new legislation was obtained in this field. With respect to drinking water, water works were opposed, as long as these would benefit the better-off only. According to the hygienists, the cleaning up of ground water was a better means of improving drinking-supplies, because this would benefit every citizen.

On a local level, the hygienists did not achieve much. Although much research still remains to be done, it seems clear that the hygienists seldom succeeded in convincing the local authorities of the necessity of governmental intervention. The hygienists came into conflict with the old liberal view that the authorities were not responsible for establishing a sound system of public hygiene. The great sanitary reforms would be carried out by another generation in another political context.

The fact that the Dutch hygienists accomplished so little in comparison, for example, with their British counterparts should be explained. It is argued that sanitary measures had by necessity been more drastic in Great Britain, because the growth of industrial cities had taken place much earlier than in the Netherlands.

The significance of the hygienists does not so much lie in the area of the concrete legislation and local regulations that they helped to achieve. Rather, they succeeded in putting public health on the political agenda. Moreover, they raised many sanitary problems and produced solutions, which were built upon after 1880. More important, however, was their contribution in the dissemination

of new medical theories and a new way of thinking about the nation's health, breaking with the paradigms of the old class-ridden society and fitting in with the liberal-democratic state that was created in 1848. At the same time, the hygienists acquired the doctors' support - albeit not unanimously - for the new order. In a sense, the hygienists successfully encouraged Dutch doctors to participate in an emancipation movement of the learned middle classes in society. The hygienists, therefore, can be considered as the doctors who politically and socially worked out Thorbecke's 1848 legislation in the field of medicine.